Utah High Quality School Readiness Program: Year 4 Pay for Success Report (2017/18; Cohort 5)

Mark S. Innocenti, Ph.D.

UtahState University

EMMA ECCLES JONES
COLLEGE OF EDUCATION & HUMAN SERVICES

School Readiness Board
2018

Pay for Success 2017/18
Purpose

- Identify approximately 25% of sample at pretest as children scoring at or below 70 on the Peabody Picture Vocabulary Test (PPVT)
  - These children are considered the high risk group
- PPVT is a norm-referenced measure of receptive language skills with strong predictive validity with school success
  - Mean = 100; standard deviation = 15
- Follow the children as they progress though school and examine later special education service usage
- Assumption: Preschool participation for the high risk group will reduce later special education placement

4-Year Old PFS Numbers at Pre and Post for 2017/18

Site	Returning 4-year-olds		New 4-year-olds		4-year Olds meeting 5/9ths rule	Total 4-year-olds		Attri-tion	4-yr Olds At-Risk		% At-Risk
	Pre	Post	Pre	Post	Post	Pre	Post	Post	Pre	Post	Post
TOTAL	**210**	**200**	**455**	**410**	**31**	**665**	**641**	**3.6%**	**141**	**135**	**21.1%**
Granite SD	176	167	405	365	28	581	560	3.6%	127	122	21.8%
Guadalupe	30	29	8	7	0	38	36	5.3%	12	11	30.6%
Lit'l Scholars	1	1	4	3	1	5	5	0%	0	0	0%
Park City SD	2	2	32	30	1	34	33	2.9%	2	2	6.1%
Smart Kids	1	1	6	5	1	7	7	0%	0	0	0%

3-Year Old PFS Attrition Numbers from Start to End of Year 2017/18

Site	3-year- olds		3-yr Olds At-Risk		Attrition from start to end	% At-Risk @ End
	Start	End	Start	End		
TOTAL	**322**	**308**	**71**	**65**	**4.4%**	**21.1%**
Granite SD	**277**	**266**	**63**	**58**	**4.0%**	**21.8%**
Guadalupe	**34**	**32**	**7**	**6**	**5.9%**	**18.8%**
Lit'l Scholars	**3**	**3**	**0**	**0**	**0%**	**0%**
Park City SD	**4**	**4**	**1**	**1**	**0%**	**25%**
Smart Kids	**4**	**3**	**0**	**0**	**25.0%**	**0%**

Pay for Success 2017/18
Historical Analysis of *Percent* of Children with PPVT Standard Scores *At or Below 70* at Pretest

Age	2014/15	2015/16	2016/17	2017/18
4-Year-Olds	24.9	24.2	19.5	21.1
3-Year-Olds	23.5	22.1	22.9	21.1

Pay for Success 2017/18
Historical Analysis of *Percent* of 4-Year-Old Children with PPVT Standard Scores *At or Below 70* at Pretest by Site

Site	2014/15	2015/16	2016/17	2017/18
Granite	21.9	22.6	19.1	21.8
Guadalupe	37.5	0.0	37.1	30.6
Lit'l Scholars	0.0	0.0	0.0	0
Park City	46.2	51.7	15.6	6.1
Smart Kids	20.0	0.0	0.0	0
YMCA	64.3	100.0	33.3	NA

Pay for Success 2017/18
General Information

- Equal distribution of boys/girls: 52/48%.
  - Equally distributed by program
- Most children Latino 58% or Caucasian 25%
  - Varies by program
- Months pre to post
  - 4 year olds (one year), mean = 6.2 months (SD=1.0)
  - 4 year olds (two years), mean = 17.9 months, (SD=1.3)

Mean Pretest and Posttest PPVT Standard Score for Four Year Old Children[1]

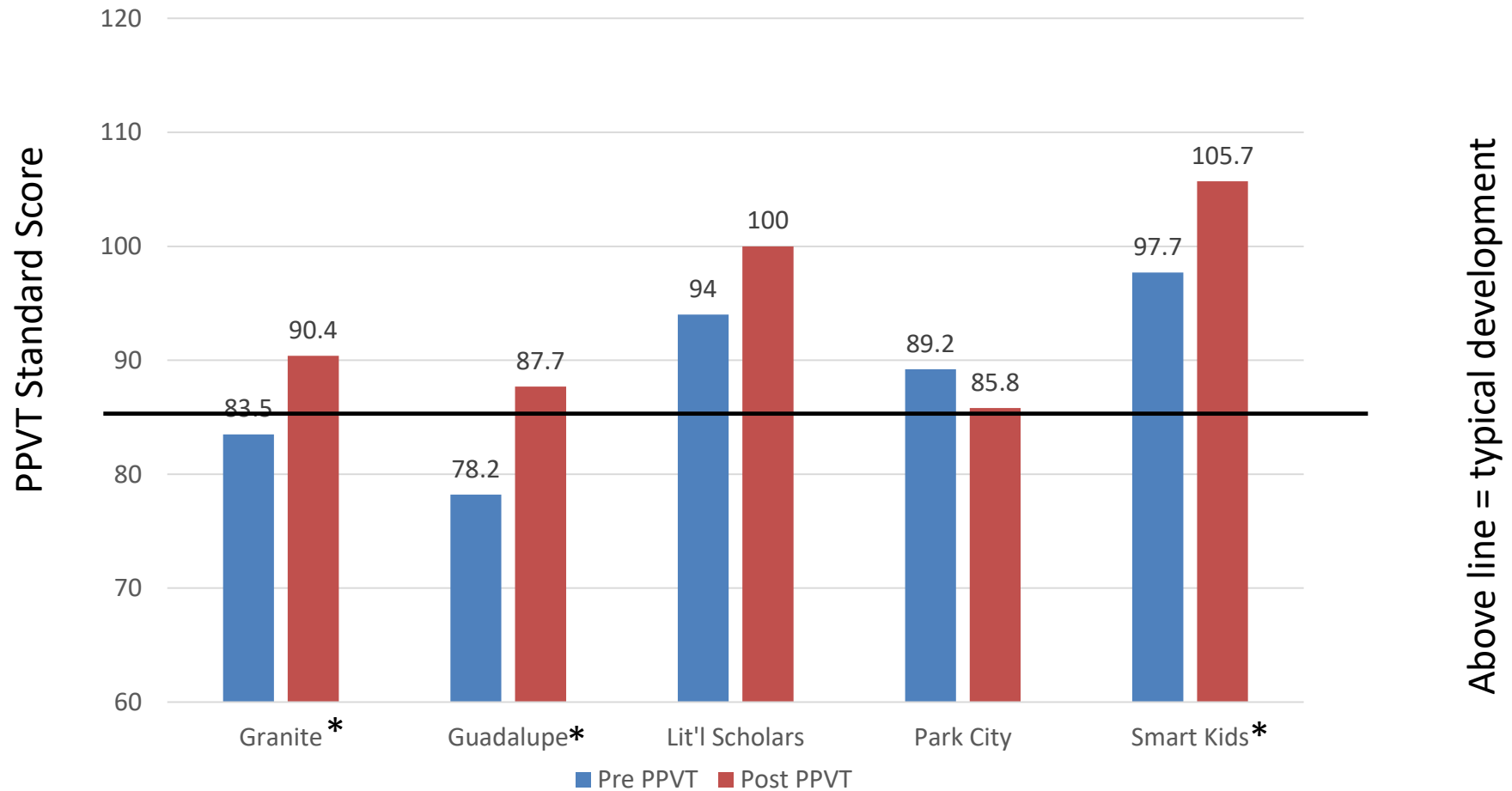| District	n	PPVT pretest		PPVT post test	
		mean	SD	mean	SD
Granite*	532	83.5	19.3	90.4	16.5
Guadalupe*	36	78.2	12.8	87.7	12.9
Lit'l Scholars^	4	94.0	3.2	100	2.4
Park City	32	89.2	14.4	85.8	14.0
Smart Kids*	6	97.7	14.4	105.7	13.1
TOTAL*	610	83.7	18.8	90.2	16.2

[1] Does not include children meeting 5/9ths rule

* Statistically significant change from pre to post at $p<.05$ based on paired t-Tests

^ Not appropriate for statistical analysis
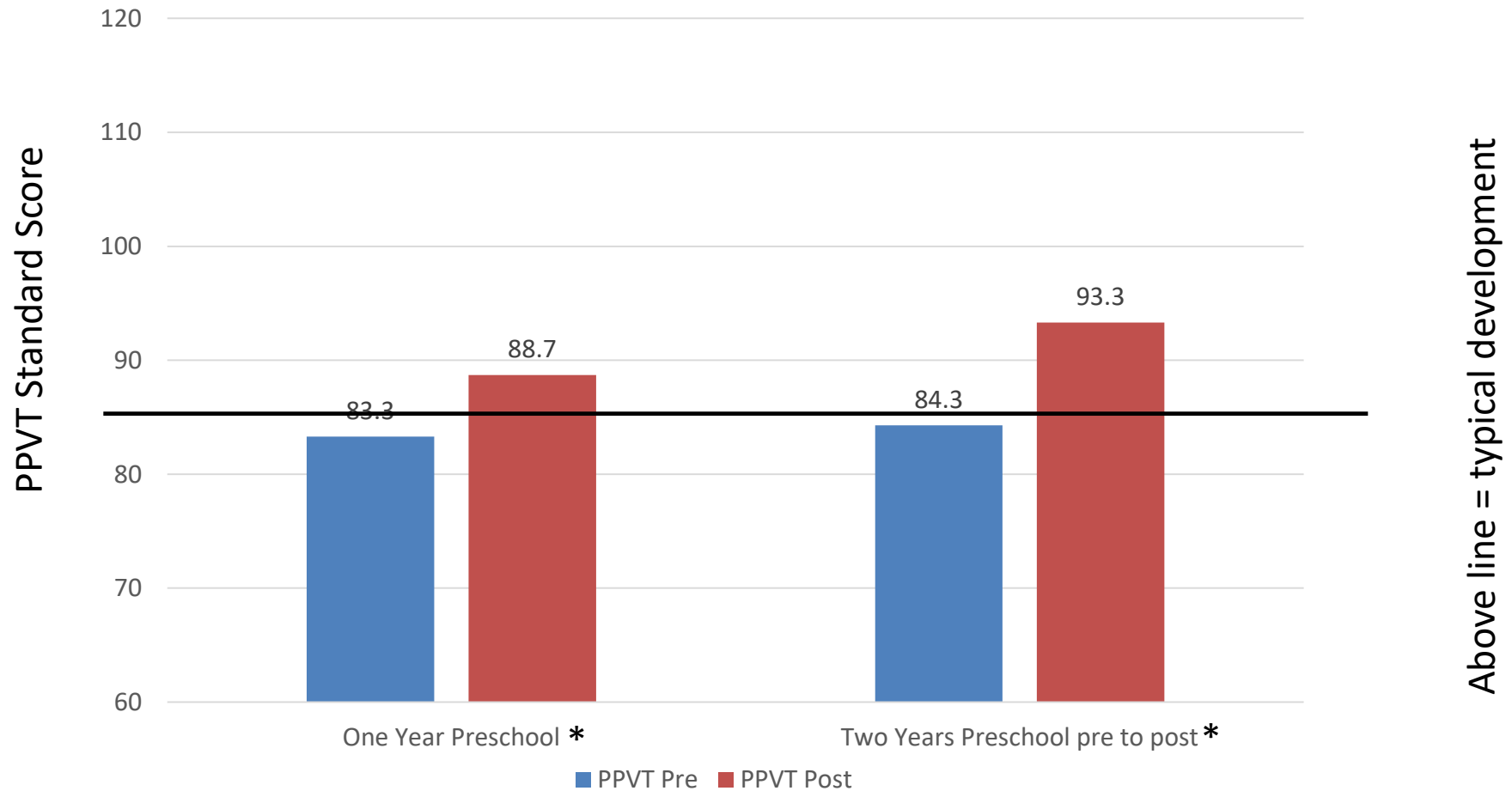
Pay for Success 2017/18
Mean Pre to Post PPVT Standard Score Change for Four Year Old Children

PPVT Standard Score

Above line = typical development

	Granite *	Guadalupe*	Lit'l Scholars	Park City	Smart Kids*
Pre PPVT	83.5	78.2	94	89.2	97.7
Post PPVT	90.4	87.7	100	85.8	105.7

■ Pre PPVT ■ Post PPVT

*p≤.05

Pay for Success 2017/18
Mean Pre to Post PPVT Standard Score for Four Year Old Children with 1 or 2 Years of Preschool

Two year student progress significantly higher than one year*

*p≤.05

Pay for Success 2017/18
4-Year Old Summary

- 21.1% of sample were at or below 70 on the PPVT, includes children not assessed at post but meeting 5/9 rule

- Granite, Guadalupe, and Smart Kids made statistically significant gains from pre to post on the PPVT
  - Lit'l Scholars had samples too small for statistical analyses
  - Park City students on average decreased in PPVT scores
    - 17 of 33 students decreased in score from pre to post

- Children who received 2 years of preschool made on average statistically significant greater gains on the PPVT

Pay for Success 2017/18
3-Year Old Summary

- 21% of sample were at or below 70 on the pretest PPVT

- 40% of children in typically developing range (PPVT > 85) or one standard below typically developing – 39%

Pay for Success 2017/18

LONGITUDINAL FOLLOW-UP OF CHILDREN – ALL COHORTS

Pay for Success 2017/18 - Longitudinal Progress Report – End of 2017/18 Academic Year

		Cohort 1 17/18	Cohort 2 17/18	Cohort 3 17/18	Cohort 4 17/18
	Expected Grade 2017/18	3rd	2nd	1st	K
	# in Cohort	385	494	496*	665 (660+5)
	Unable to find	34 (12 from risk group)	32 (7 from risk group)	23 (8 from risk group)	24 (3 in at-risk group)
	Total found	351	462	473	641
Non-Risk	# Non-risk group	250	346	362	515
	# Non-risk group in special ed	25	27	16	10
	% Non-risk in special ed	10%	7.8%	4.4%	1.9%
At-Risk	# Risk group	101	116	111	126
	# Risk group in special education	20	16	6	4
	Payout group	81	100	105	122
	% At-risk in special education	19.8%	13.8%	5.4%	3.2%

*Number after 5 children moved to Cohort 4 (see last year's report)

Pay for Success 2017/18
Longitudinal Progress Report –Cohort 1, All Years

		Cohort 1 14/15	Cohort 1 15/16	Cohort 1 16/17	Cohort 1 17/18
	Expected Grade 2016/17	K	1st	2nd	3rd
	# in Cohort	385	385	385	385
	Unable to find	10 (1 from risk group)	18 (4 from risk group)	23 (5 from risk group)	34 (12 from risk group)
	Total found	375	367	362	351
Non-Risk	# Non-risk group	266	261	257	250
Non-Risk	# Non-risk group in special ed	4	9	13	25
Non-Risk	% Non-risk in special ed	1.5%	3.4%	5.1%	10%
At-Risk	# Risk group	109	106	105	101
At-Risk	# Risk group in special education	1	5	9	20
At-Risk	Payout group	108	101	96	81
At-Risk	% At-risk in special education	0.9%	4.7%	8.6%	19.8%

Pay for Success 2016/17
Longitudinal Progress Report –Cohorts 2 & 3, All Years

	Cohort 2 15/16	Cohort 2 16/17	Cohort 2 17/18	Cohort 3 16/17	Cohort 3 17/18
Expected Grade 2016/17	K	1st	2nd	K	1st
# in Cohort	494	494	494	501	496*
Unable to find	15 (3 from risk group)	23 (6 from risk group)	32 (7 from risk group)	11 (3 from risk group, 5 to cohort 4)	23 (8 from risk group)
Total found	479	471	462	485	473
Non-Risk — # Non-risk group	359	354	346	369	362
# Non-risk group in special ed	6	15	27	8	16
% Non-risk in special ed	1.7%	4.2%	7.8%	2.2%	4.4%
At-Risk — # Risk group	120	117	116	116	111
# Risk group in special education	8	11	16	3	6
Payout group	112	106	100	113	105
% At-risk in special education	6.7%	9.4%	13.8%	2.6%	5.4%

School Readiness Board - 2018

16

Pay for Success 2017/18
Overall Summary

- There was less program attrition than in past years
  - Only 3.6% for 4-year olds
- Granite School District is the largest program and has the most influence on findings
  - Approximately 87% of students are Granite students
- Significantly more student progress occurred when children had two versus one year of preschool
- Longitudinal data are positive for the social impact bond
  - For cohort 1 we are seeing higher rates of special education placement in 3rd grade